

APRIL/MAY 2024

## CBC41/FBC41 — PLANT BIOCHEMISTRY

Time : Three hours

Maximum : 75 marks

**SECTION A — (10 × 2 = 20 marks)**

Answer ALL questions.

1. What is chlorophyll?
2. Explain the importance of photosynthesis.
3. What are flavonoids?
4. Outline the plant hormones.
5. What is asymbiotic nitrogen fixation?
6. Explain the role of Nitrite reductase.
7. How do salinity affect plants?
8. Outline the effects of protein toxins.
9. Show the various ROS produced in plants.
10. Summarize the importance of SOD.



**SECTION B — (5 × 5 = 25 marks)**

Answer ALL the questions.

11. (a) Identify the steps in Photorespiration.

Or

(b) Examine the reactions of calvin cycle.

12. (a) Identify the functions of ethylene.

Or

(b) Examine the importance of ABA in plants.

13. (a) Organize the steps in nitrogen assimilation.

Or

(b) Analyze the mechanism by which nitrogen compound are formed in plants.

14. (a) Identify the effects of water stress on plants.

Or

(b) Examine the role of protease inhibitors briefly.

15. (a) Organize the sources and effects of ROS in plants.

Or

(b) Analyze the role of Ascorbic acid in scavenging free radicals.

**SECTION C — (3 × 10 = 30 marks)**

Answer any THREE questions.

16. Elaborate on the reactions of Callus cycle.

17. Deduce the salient features of cytokinins with their structure.

18. Explain the steps involved in nitrogen fixation.

19. Elaborate the various stress in plants.

20. Discuss the role of antioxidant machinery in plants.

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